*Please provide the following information, and submit to the NOAA DM Plan Repository.*

**Reference to Master DM Plan (if applicable)**

*As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.*

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

## 1. General Description of Data to be Managed

### 1.1. Name of the Data, data collection Project, or data-producing Program:

2003-2005 South Carolina Oyster Mapping Orthoimagery

### 1.2. Summary description of the data:

Data set contains digital orthophotography. The digital orthophotos in this series have a theoretical ground resolution of 0.25 meter. The digital orthophotos are 4-band in nature (red, green, blue, near infrared) and are delivered as flown in four-band .img file format. The four-band imagery is delivered in mosaics equaling one eighth of a DOQ. The data set presents information that represents current conditions for the specified DOQQ regions of interest as specified by PhotoScience Task No. 01012C0053 for coastal areas of South Carolina. The project area was selected specifically to cover those sections of the South Carolina coastal critical zone where oysters had historically been mapped by SCDNR. The extent of the DOQQs for the project area range from the Hilton Head area in the southern part of South Carolina to the Myrtle Beach area in the northern part of the state. All data were captured during specific imaging windows per contract. These imaging windows are 6-10-03 through 6-16-03, 7-9-03 through 7-15-03, 7-30 through 7-31-03, 8-8-03 through 8-13-03, 8-27-03 through 8-29-03, 9-25-03 through 9-26-03, 10-24-03 5-2-04 through 5-6-04, 5-16-04 through 5-18-04, 5-31-04 through 6-5-04, 6-28-04 through 7-4-04, 7-28-04 through 8-2-04, 4-4-05 through 4-11-05, and 5-4-05 through 5-8-05. The total DOQQ area is approximately 1,527 square miles.

Original contact information:

Contact Org: NOAA Office for Coastal Management

Phone: 843-740-1202

Email: coastal.info@noaa.gov

### 1.3. Is this a one-time data collection, or an ongoing series of measurements?

One-time data collection

### 1.4. Actual or planned temporal coverage of the data:

2003-05 to 2005-10

**1.5. Actual or planned geographic coverage of the data:**
W: -81, E: -78.53, N: 33.89, S: 32.04

**1.6. Type(s) of data:**
*(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)*
Image (digital)

**1.7. Data collection method(s):**
*(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)*

**1.8. If data are from a NOAA Observing System of Record, indicate name of system:**

**1.8.1. If data are from another observing system, please specify:**

**2. Point of Contact for this Data Management Plan (author or maintainer)**

**2.1. Name:**
NOAA Office for Coastal Management (NOAA/OCM)

**2.2. Title:**
Metadata Contact

**2.3. Affiliation or facility:**
NOAA Office for Coastal Management (NOAA/OCM)

**2.4. E-mail address:**
coastal.info@noaa.gov

**2.5. Phone number:**
(843) 740-1202

**3. Responsible Party for Data Management**
*Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.*

**3.1. Name:**

**3.2. Title:**
Data Steward

**4. Resources**
*Programs must identify resources within their own budget for managing the data they produce.*

**4.1. Have resources for management of these data been identified?**

**4.2. Approximate percentage of the budget for these data devoted to data management ( specify percentage or "unknown"):**

**5. Data Lineage and Quality**

*NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.*

**5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible**

*(describe or provide URL of description):*

Process Steps:

- 2004-01-01 00:00:00 - Image Acquisition: Overview--The study area consists of 1, 527 square miles along the coast of South Carolina and is organized into Digital Ortho Quarter Quads (DOQQ). In 2003, imaging was done at the DOQQ level, that is, each DOQQ was a designated Region of Interest (ROI). In 2004, imaging was done at the DOQQ-Q level. In both years, post processing of the images was done at the DOQQ-Q level. A fleet of ten of GeoVantage's GeoScannerSM multispectral aerial imaging sensors acquired 1,280 by 960 single frames in a direct digital manner. Each GeoScanner has an integral IMU and collects GPS and ground basestation data. GeoVantage's GeoPost application processed the DOQQ's single frames and created image mosaics orthoprojected to 7.5 minute Digital Elevation Models. In order to maximize the ability to detect intertidal oyster reefs the GeoScanner imagery was collected under the following conditions: Tidal stage - Imaging was timed to coincide with normal 0.0 or negative low tides (Mean Lower Low Water) + 1.5 hours. Season - The flight windows were also based on the period of high Spartina biomass (between May 15, 2003(2004) and October 15, 2003(2004)). Sun elevation - Missions were flown only when the sun angle was at least 45 degrees above the horizon to minimize shadowing on fringing reef. Occasionally acceptable imagery was acquired under high overcast conditions that provided even illumination. Winds - Imagery was only acquired when winds were calm or onshore less than 15 mph as determined at the local airport where flights were staged for that day. Offshore winds of any speed less than that which would interfere with aircraft operations were also acceptable. Clouds/Haze- No clouds or cloud shadows obscured the intertidal portion of the study area. Clouds and shadows did not cover more than 10% of the terrestrial portion of any mission. Rain - No imagery was collected while rain was falling in the mission area. Illumination -The imagery was acquired under even illumination conditions. This can be either through clear skies or under a high overcast. Of the two, clear conditions are preferable. Water Levels- No imagery was acquired if more than 12 inches of rain had fallen in the local area during the previous 72 hours
- 2005-01-01 00:00:00 - Image Rectification: The original mosaics were generated to the USGS DEM using either GeoVantage Base Station differential corrected data or

multiple CORS stations to control airborne GPS and IMU data. In order to maximize spatial accuracy all data collected in 2003 and 2004 went through the following process: Subset Area Selection--Subset of 100 image frames were post-processed using best available CORS data (only stations within 150 miles of project area). Each set of 10 x 10 frames was selected to cover area with most identifiable features that could be visually compared. If possible this was the center of the DOQQ mosaic. Image Point Comparison-A point shapefile was generated from 10 identifiable features in the original mosaic. A corresponding shapefile was generated from the same 10 features in the 100-frame subset mosaic. Tabular Evaluation-A spreadsheet was populated with the original and the CORS-processed subset coordinates for each of the 10 points. This table showed both coordinate pairs and deltas for both x and y. This allowed a quantitative review of any offsets between the two mosaics to determine if a systematic error existed. Re-Nav/Reprocess Decision Process-If a systematic offset was observed in either x or y-axes, the original DOQQ mosaic and any mission mosaics was nudged by this distance. There was no threshold distance below which a spatial nudge would not occur. If the offsets were determined to be non-systematic, as judged by a CE 90 error greater than 3 meters after the offset was removed, then the entire original frames, mission mosaics, and DOQQ mosaic was reprocessed using the closest CORS stations. Reporting on this process-The table of 10 coordinate pairs and the nudge distances was included in the ReadMe file for the DOQQ and included on the delivery drive. This provided documentation of the process allowing the user to better understand the lineage of the data. After the original untrimmed mosaic was nudged, it was then trimmed for delivery and put through a visual quality review. This review was to identify and correct any anomalies. The "nudging" process was not applied to the individual image frames. The direction and distance of the nudge applied to the mosaic was documented, so that users desiring to work with individual image frames could apply it if needed.

#### 5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

### 5.2. Quality control procedures employed (describe or provide URL of description):

## 6. Data Documentation

*The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.*

### 6.1. Does metadata comply with EDMC Data Documentation directive?

No

#### 6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:
- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.3. Data access methods or services offered
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

**6.2. Name of organization or facility providing metadata hosting:**

NMFS Office of Science and Technology

**6.2.1. If service is needed for metadata hosting, please indicate:**

**6.3. URL of metadata folder or data catalog, if known:**

https://www.fisheries.noaa.gov/inport/item/48422

**6.4. Process for producing and maintaining metadata**

*(describe or provide URL of description):*

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

**7. Data Access**

*NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.*

**7.1. Do these data comply with the Data Access directive?**

**7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?**

**7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:**

**7.2. Name of organization of facility providing data access:**
NOAA Office for Coastal Management (NOAA/OCM)

**7.2.1. If data hosting service is needed, please indicate:**

**7.2.2. URL of data access service, if known:**
https://coast.noaa.gov/dataviewer/#/imagery/search/where:ID=140
https://coast.noaa.gov/htdata/raster1/imagery/CoastalSC_2003_140

**7.3. Data access methods or services offered:**

**7.4. Approximate delay between data collection and dissemination:**

**7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:**

## 8. Data Preservation and Protection

*The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.*

**8.1. Actual or planned long-term data archive location:**
*(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)*

**8.1.1. If World Data Center or Other, specify:**

**8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:**

**8.2. Data storage facility prior to being sent to an archive facility (if any):**
Office for Coastal Management - Charleston, SC

**8.3. Approximate delay between data collection and submission to an archive facility:**

**8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?**
*Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection*

## 9. Additional Line Office or Staff Office Questions

*Line and Staff Offices may extend this template by inserting additional questions in this section.*